



## 2016 Massachusetts HIV/AIDS Epidemiologic Profile

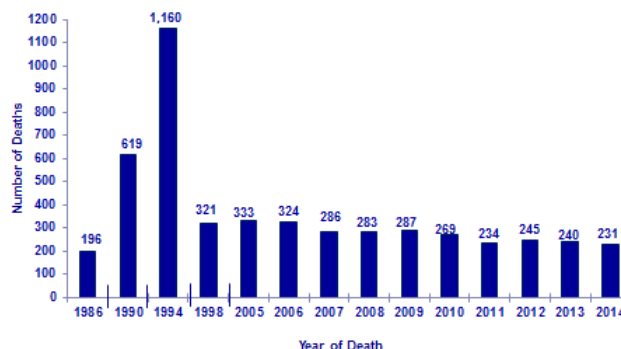
### Who is dying with HIV/AIDS and how has this changed over time?

#### Fast Facts

- 2014 saw the lowest number of deaths among persons with HIV infection since a peak in 1994. This trend reflects improvement in care and treatment resulting in longer survival and a decline in the proportion of persons living with HIV infection who progress to AIDS.
- In 2014, injection drug use was the exposure mode for 44% of people reported with HIV infection who died, compared to 4% of the people diagnosed with HIV infection.
- The majority of deaths among persons with HIV infection were not directly HIV-related.
- Disparities in mortality among people living with HIV infection paralleled known disparities in infection rates by sex at birth, race, ethnicity, and place of birth.
- Survival time from diagnosis continued to increase in all people in Massachusetts living with HIV infection.

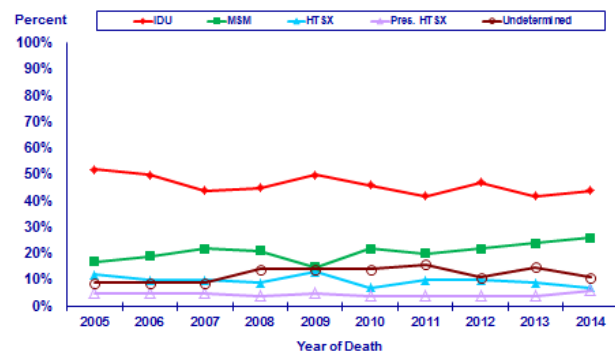
Death rates among black (non-Hispanic) and Hispanic/Latino individuals reported with HIV infection were higher than for the white (non-Hispanic) population.

**Figure 1. Trends in the Number of Deaths Among People Reported with HIV/AIDS by Year of Death: Massachusetts, Selected Years, 1985–2014**



Note: Death data for people with HIV who had not yet progressed to AIDS are not available before 1999 and therefore not included here. Data Source: MDPH HIV/AIDS Surveillance Program; data are current as of 3/1/16 and may be subject to change.

**Figure 2. Trends in the Percentage of Deaths among People Reported with HIV/AIDS by Selected Exposure Mode and Year of Death: Massachusetts, 2005–2014**



N= 2,732; IDU= Injection Drug Use; MSM=Male-to-Male Sex; HTSX=Heterosexual Sex; Pres.=Presumed; Data Source: MDPH HIV/AIDS Surveillance Program; data are current as of 3/1/16 and may be subject to change (percentages may not add up to 100% due to rounding).

#### Rank of HIV/AIDS among Leading Causes of Death in 2014: <sup>iii</sup>

- In 2014, HIV/AIDS was the 29<sup>th</sup> leading cause of death in Massachusetts.

#### Introduction:

The number of deaths among people reported with HIV infection declined 31% from 333 deaths in 2005 to 231 in 2014 (Figure 1).<sup>i</sup> In 2014, 33% of deaths among people reported with HIV infection were directly HIV-related (N=80/240), compared to 54% ten years prior (2005, N=180/333).<sup>ii</sup>

From 2005 to 2014, the greatest proportion of deaths among people with HIV infection was in persons reported with an exposure mode of injection drug use, which remained fairly stable at over 40% annually (Figure 2). In the past ten years (2005 to 2014), the proportion of deaths among people with HIV infection reported with an exposure mode of male-to-male sex increased from 17% to 26%.

- HIV/AIDS was the 17<sup>th</sup> leading cause of death for Hispanic/Latino individuals, 16<sup>th</sup> leading cause of death for black (non-Hispanic) individuals, and the 31<sup>st</sup> leading cause of death for white (non-Hispanic) individuals.
- Among 25–44 year olds, HIV/AIDS was the 14<sup>th</sup> leading cause of death in 2014.

### Exposure Mode:

- From 2005 to 2014, a small increase in deaths was observed only among persons exposed to HIV infection through MSM, 7% (from 56 to 60).
- For persons in all other exposure mode categories, the number of deaths reported decreased as follows:
  - for heterosexual sex exposure it decreased by 56% (from 39 to 17);
  - for injection drug use (IDU) exposure it decreased by 41% (from 172 to 101);
  - for MSM/IDU exposure it decreased by 40% (from 15 to 9).
  - for presumed heterosexual exposure<sup>iv</sup> it decreased by 22% (from 18 to 14); and
  - for undetermined exposure it decreased by 16% (from 31 to 26).

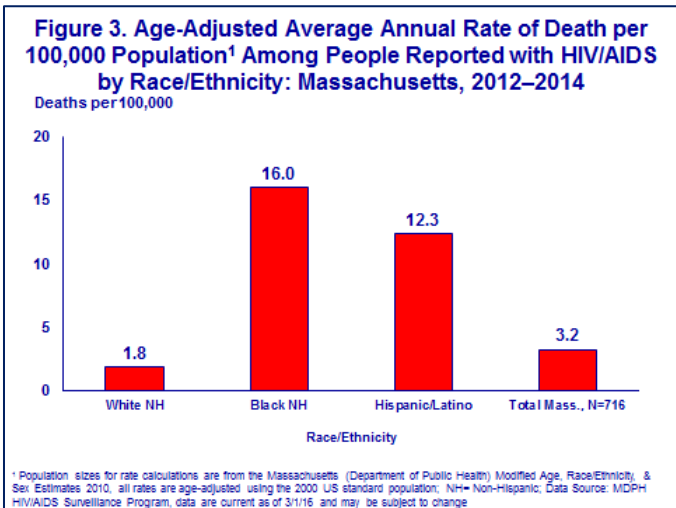
### Race/Ethnicity:

- Deaths among people reported with HIV infection from 2005 to 2014 declined for all race/ethnicities.
- Among people with HIV infection who were Hispanic/Latino, deaths decreased by 34% (from 88 to 58), white (non-Hispanic) by 32% (from 154 to 105), and black (non-Hispanic) by 30% (from 88 to 62).

### Average Annual Rate of Death among People Reported with HIV infection by Race/Ethnicity, 2012–2014:

- In Massachusetts, the age-adjusted average annual death rate during 2012 to 2014 was 3.2 per 100,000 population.
- The age-adjusted average annual death rates during 2012 to 2014 among black (non-Hispanic) (16.0 per 100,000) and Hispanic/Latino (12.3 per 100,000) individuals reported with HIV infection were nine and seven times greater than for white (non-Hispanic) individuals (1.8 per 100,000), respectively. These rates reflect longstanding disparities in HIV infection incidence by race/ethnicity: black

(non-Hispanic) individuals were diagnosed with HIV infection at ten times and Hispanic/Latino individuals at six times the rate of white (non-Hispanic) individuals during 2012 to 2014.



### Sex at Birth:

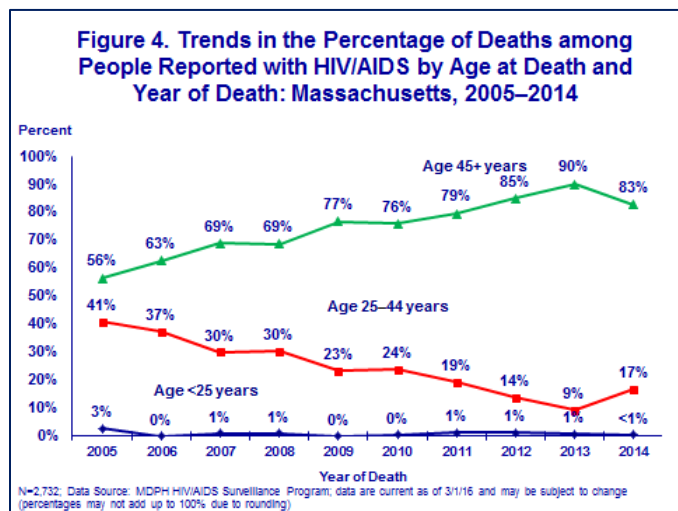
- In 2014, 75% (N=174/231) of individuals reported with HIV infection who died were men and 25% (N=57/231) were women.<sup>v</sup> These proportions have been relatively stable over time and are consistent with the distribution of HIV infection by sex at birth.
- From 2005 to 2014, the number of deaths among women reported with HIV infection decreased by 42% (from 99 to 57) and among men by 26% (from 234 to 174).

### Place of Birth:

- In 2014, 73% (N=169/231) of those reported with HIV infection who died were born in the U.S., 16% (N=38/231) were born in Puerto Rico or another U.S. dependency, and 10% (N=24/231) were born outside the U.S. These proportions have been relatively stable over time.
- From 2005 to 2014, the number of deaths among people reported with HIV infection who were born in Puerto Rico or another U.S. dependency decreased by 39% (from 62 to 38), among people born in the U.S. by 31% (from 245 to 169), and among people born outside the U.S. by 8% (from 26 to 24).

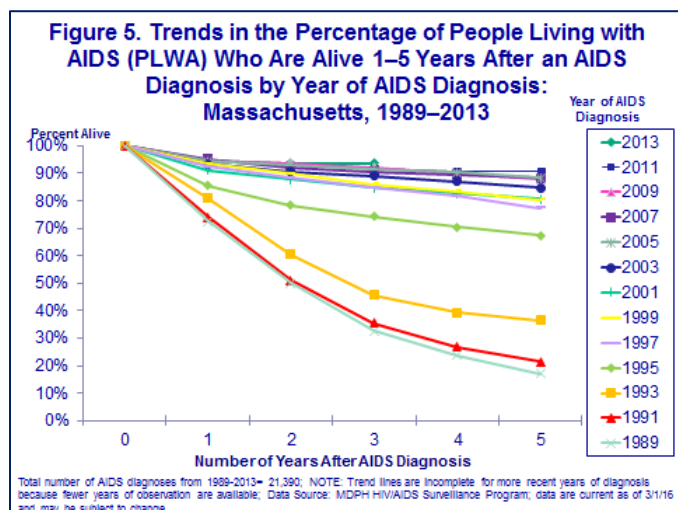
## Age at Death:

- The proportion of deaths among people with HIV infection who were between 25 and 44 years of age decreased from 41% (N=136/333) in 2005 to 17% (N=39/231) in 2014. During the same time period, the proportion of deaths among people with HIV infection who were age 45 years old and older increased from 56% (188/333) to 83% (N=191/231). Thus, the pattern of deaths by age among people with HIV infection is beginning to resemble that of the general Massachusetts population. For comparison, in 2014, 4% (N=2,234) of all deaths in Massachusetts (N=55,157) were among 25 to 44 year olds and 94% (N=52,032) were among those age 45 years old and older.

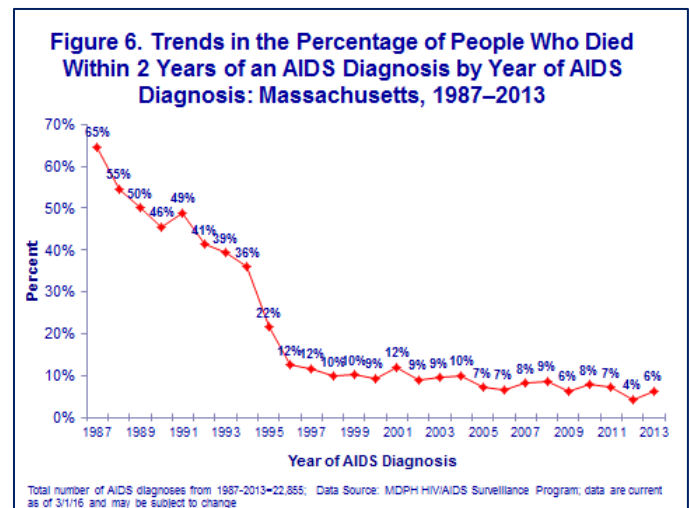


## Trends in Survival after an AIDS Diagnosis:

- The proportion of people alive with AIDS one to five years after diagnosis has increased over time (Figure 5).



- The proportion of people diagnosed with AIDS who died within two years of their diagnosis has decreased over time (Figure 6).



## Data Source:

All HIV/AIDS Case Data: Massachusetts Department of Public Health (MDPH) HIV/AIDS Surveillance Program, data are current as of 3/1/16 and may be subject to change

<sup>i</sup> Effective January 1, 2011, the Massachusetts Department of Public Health, HIV/AIDS fact sheets, epidemiologic reports, and other data presentations have been updated to remove all HIV/AIDS cases that were first diagnosed in another state before being reported in Massachusetts.

<sup>ii</sup> This fact sheet describes all deaths among people reported with HIV infection in Massachusetts from all causes, including cardiovascular disease, liver disease, cancer, accidental injury, or poisoning inclusive of drug overdose. Therefore, the number of deaths here (N=231 in 2014) will differ from the number of deaths with HIV/AIDS as the cause of death (N=80 in 2014) reported in *Massachusetts Deaths 2014* by the Massachusetts Department of Public Health, Office of Data Management and Outcomes Assessment, October 2016

<sup>iii</sup> Data included here represent HIV/AIDS-related deaths from: *Massachusetts Deaths 2014*. Massachusetts Department of Public Health, Office of Data Management and Outcomes Assessment, October 2016

<sup>iv</sup> The category of presumed heterosexual is used exclusively for women, to define exposure mode in cases when sex with men is the only reported risk factor for HIV infection.

<sup>v</sup> Please note “women” and “men” are used for stylistic reasons to describe female and male populations diagnosed with HIV infection that include a small number of girls and boys (N=24 children living with HIV infection under age 13 as of 1/1/16). Data reflect sex at birth and therefore not gender identity or gender expression of transgender individuals (N=56 transgender individuals living with HIV infection).